68. (New) The molecular array of claim 56 wherein the deposition material is an antibody.

69. (New) The molecular array of claim 56 wherein the deposition material is a nucleic acid.

70. (New) The molecular array of claim 56 wherein the deposition material is a succinimide.

71. (New) The molecular array of claim 56 wherein the deposition material is a DNA molecule.

72. (New) The molecular array of claim 56 wherein the deposition material is an RNA molecule.

73. (New) The molecular array of claim 56 wherein the deposition material is a silane.

74. (New) The molecular array of claim 56 wherein the deposition material is an alkanethiolate.

75. (New) The molecular array of claim 56 wherein the deposition material is a biomolecule.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Marked-up Version Showing Changes.**"

REMARKS

The Applicant would, as an initial matter, like to thank the Examiner for his time during the telephonic interview conducted on June 1, 2001. His time and comments were very helpful to the Applicant in trying to understand the Examiner's position relating to the prior art.

Claims 56-63, 65, and 67-75 are pending in the present application. The Examiner rejected claims 56-65 as being anticipated under 35 U.S.C. § 102(b) by U.S. Patent 6,123,819 to Peeters ("Peeters"). While the applicant disagrees with the Examiner's interpretation and reliance upon the Peeters reference, believing that the Peeters reference does not disclose a deposition domain with a chemically or biologically based molecule, nor a deposition domain as claimed in the present application. The applicant has made the present amendments and arguments in view of the Examiner's position in the interest of furthering the prosecution of the

present application. Applicant, of course, reserves his right to pursue broader claims in a continuing application.

Reconsideration of the pending claims is therefore respectfully requested in view of the above amendments and the following comments.

I. Amended Claim 56 Is Not Anticipated By Peeters

Independent Claim 56 has been rejected by the Examiner as anticipated under 35 U.S.C. § 102(b). The Applicant respectfully submits that, as amended, this previously rejected claim is allowable over the Peeters reference cited by the Examiner. In order for Peeters to anticipate claim 56, each claimed element must be disclosed in the same. The claims to the present invention, however, clearly point out novel features not taught in Peeters.

First, Peeters discloses clusters of nanoelectrodes that are made out of metal. For example, Peeters specifically states that "[e]lectrodes **26**a, **26**b, and **26**c can be formed of a number of materials, either intrinsic or doped, such as gold and platinum and copper and other electrometals." Col. 5, lns. 20-23 (emphasis added). See Col. 4, lns. 16-17; Col. 4, 27-45.

In contrast, biologically or chemically based molecular deposition domains as claimed by the present invention are patentably distinct from metallic electrodes built on a surface. A cluster of metal electrodes which mimic a molecule's binding affininty does not teach a domain of the actual molecule. As is explained more clearly on page 13 of the specification: "Examples of deposition materials include, but are not limited to, biomolecules, proteins, a variety of chemicals, DNA, RNA, antibodies, or any other substance recognized by one skilled in the art which may have usefulness within the teaching of the present invention." Claim 56 clearly claims an array with biologically or chemically based domains that are not taught or suggested by Peeters.

Second, the domains taught by Peeters are limited by the fact that the clusters can only bind one molecule of the sample compound. The metallic electrodes (nanoelectrodes) of Peeters are grouped into clusters which "can serve as individual electronic protein 'receptors.' Col. 4, ln.

33-34. Each cluster of metallic nanoelectrodes are arranged in a predetermined topology to mimic a predetermined binding affinity. It is inherent in Peeters, therefore, that each cluster can only bind one molecule of the sample compound, and therefore each of the domains created by Peeters can only contain one bound molecule. The present invention teaches that more than one molecule of the deposition material can be placed in each deposition domain. See Specification at pgs. 14, 25. Domains of two or more biologically or chemically based molecules in a domain less than one micron in area, as claimed by amended claim 56, are clearly not taught or suggested by Peeters.

II. Dependent claims 57-63, 65, and 67-75 Are Allowable

Because dependent claims 57-63, 65, and 67-75 depend on independent claim 55 either directly or indirectly, the arguments presented above apply *a fortiori* to these claims. New claims 67-75 simply claim the Markush group of deleted claim 64 on claim by claim basis. As such, each of the dependent claims are patentable over Peeters.

CONCLUSION

In view of the above amendments and preceding remarks, Applicants respectfully urge that the Examiner's rejections be reconsidered and withdrawn, and that the pending claims be allowed. However, if the Examiner believes that any issues remain unresolved, he is invited to telephone the undersigned to expedite allowance.

Respectfully submitted,

Date: 6/12/01

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MARKED-UP VERSION SHOWING CHANGES

IN THE CLAIMS

56. A molecular array for characterizing molecular interaction events, comprising:

(a) a surface; and

(b) [an] at least one molecular deposition domain [deposited] on said surface wherein the spatial address of the domain is less than one micron in area and each domain includes at least two biologically or chemically based molecules.